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2  **Supplementary Fig.1** Identification of 27 clusters of lung-originated cells in both
3  groups of mice. **A,B**. UMAP distribution of all 27 clusters identified by Seurat in the
4  merged dataset of BLM+ADSCs group (A) and BLM+PBS group (B). **C**. Cell counts
5  in every cluster in each group. Cluster cell types were inferred by SingleR. **D**. Stacked
6  violin plot of cluster marker genes (two marker genes for each cluster) and cell count
7  number for each cluster of lung-originated cells.

**Supplementary Fig.2** Identification of 10 clusters of in-vitro cultured (ADSC_cul) and recollected ADSCs (ADSC_rec). **A**. UMAP distribution of all 10 clusters identified by Seurat in merged dataset of ADSC_cul and ADSC_rec. **B**. Cell count of every cluster in two ADSC groups. **C**. Stacked violin plot of cluster marker genes (top three marker

13  genes for each cluster) in two ADSC groups. **D**. Signaling pathway network in
14  BLM+ADSC group calculated by CellChat, showing signaling with recollected ADSCs
15  (ADSC_rec) as the receiver (NRG), and ADSC_rec as the sender when lung-originated
16  cells other than Macrophage-4 was the major receiver. Left column: sender, receiver,
17  mediator and influencer of different pathways. Right column: relative contribution of
18  each ligand-receptor pair in corresponding pathway network.

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